FIRST QUANTUM MINERALS LTD.

NOTICE OF COMMISSIONING

1824-A-NOC-099

MINERA PANAMA
COMMISSIONING IN PROGRESS
PUESTA EN MARCHA EN PROGRESO
The purpose of this TAG is to IDENTIFY EQUIPMENT which is still in the commissioning phase.
El propósito de esta ETIQUETA es para IDENTIFICAR el EQUIPO que está bajo la etapa puesto en marcha.
This equipment must not be operated without the Permission of the Commissioning Manager or Authorised Nominee.
No operar este equipo sin el Permiso del Director de Comisión o del Designado Encargado.
This Tag can only be removed by the Commissioning Manager or Authorised Nominee.
Solo el Director de Comisión o Designado Encargado puede quitar esta Etiqueta.
SEE OTHER SIDE / VER EL REVERSO

Date: April 21, 2018 – 07:00 am

System ID: 2-101-1, 2-101-02A & 2-101-02B

System Description: Unit2 - UAT-2A, UAT-2B and Secondary / CST-02 and Secondary

Contact Name: Julian Blair, Brenton Sherston & Milton Cabanillas, Norman Tarran

Contact Number: 63799990, 64422720 & 69804755, 66197102

Fecha: 21 de Abril del 2018 - 07:00 am

ID Sistema: 2-101-1, 2-101-02A & 2-101-02B

Descripción del Sistema: Transformadores UAT-2A, UAT-2B & CST- 02 y secundarios de la Unidad 2

Nombre Contacto: Julian Blair, Brenton Sherston & Milton Cabanillas, Norman Tarran

Número de Contacto: 63799990, 64422720 & 69804755, 66197102

ENGLISH

The Unit 2 - UAT-2A, UAT-2B and Secondary / CST-02 and Secondary are under commissioning. Access restrictions will be in force. Upon completion the commissioning test, power feed will be reticulated to the Equipment's. All equipment access will be locked with appropriate signage. No work is to be conducted on equipment tagged with a Blue Commissioning Tag without approval from the Commissioning Manager. Please see attached drawings.

Commissioning team will be commence April 21, 2018 at 07:00 AM

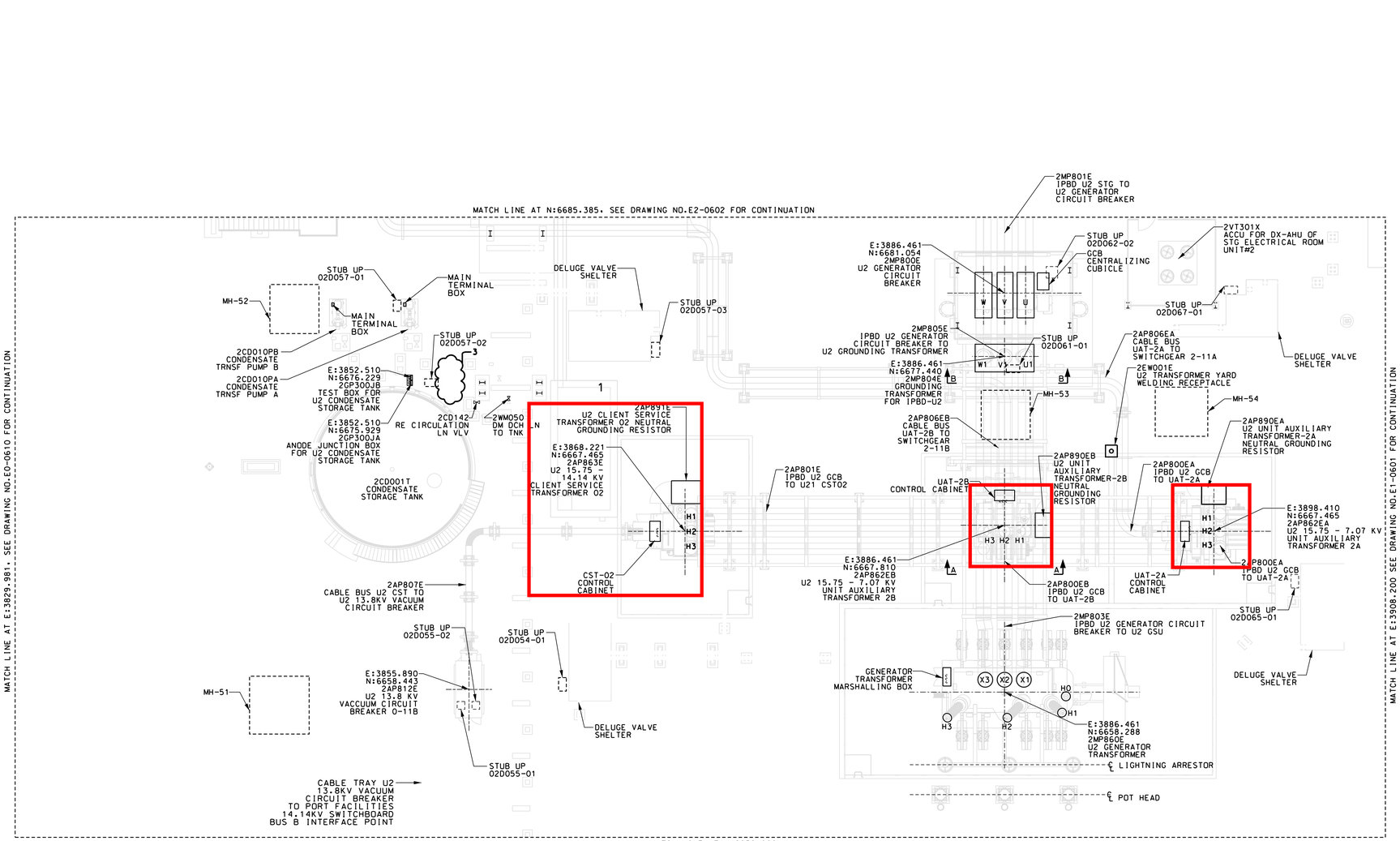
SPANISH

Transformadores UAT-2A, UAT-2B & CST-02 y secundarios de la Unidad 2 están bajo puesta en marcha. Las restricciones de acceso estarán en vigor para esta área.. Una vez completada las pruebas de puesta en marcha, se pondrá alimentación eléctrica a los Equipos. Todos accesos a estos equipos se bloquearán con señalización apropiada. No se realizará ningún trabajo en equipos con etiqueta de puesta en marcha color azul y sin la aprobación del Gerente de Puesta en Marcha. Por favor ver planos adjuntados.

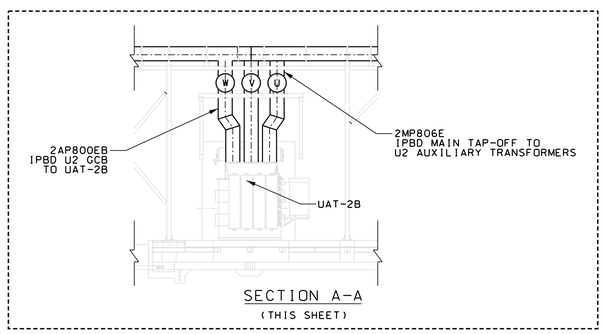
El equipo de puesta en marcha iniciará el 21 de Abril del 2018 a las 7:00 AM.

POST ON ALL PACO SAFETY NOTICE BOARDS

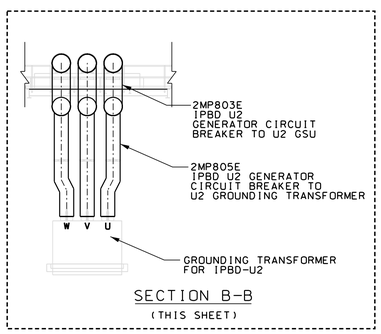
PACO MANAGERS & SUPERINTENDENTS TO **ENSURE** THIS **NOC** IS COVERED IN TOOLBOX MEETINGS AND ALL PERSONNEL ARE AWARE OF THE HAZARDS.


MATCH LINE AT N:6685.385. SEE DRAWING NO.E2-0602 FOR CONTINUATION
MATCH LINE AT N:6650.000
MATCH LINE AT E:3829.981. SEE DRAWING NO:E0-0610 FOR CONTINUATION
MATCH LINE AT E:3908.200 SEE DRAWING NO:E1-0601 FOR CONTINUATION
STUB UP 02D057-01
MAIN TERMINAL BOX
MH-52
MAIN TERMINAL BOX
2CD01OPB CONDENSATE TRNSF PUMP B
2CD01OPA CONDENSATE TRNSF PUMP A
STUB UP 02D057-02
E:3852.510 N:6676.229 2GP30OJB TEST BOX FOR U2 CONDENSATE STORAGE TANK
E:3852.510 N:6675.929 2GP30OJA ANODE JUNCTION BOX FOR U2 CONDENSATE STORAGE TANK
2CD142 RE CIRCULATION LN VLV
2WM05O DM DCH LN TO TNK
2CD001T CONDENSATE STORAGE TANK
DELUGE VALVE SHELTER
STUB UP 02D057-03
2AP891E U2 CLIENT SERVICE TRANSFORMER O2 NEUTRAL GROUNDING RESISTOR
E:3868.221 N:6667.465 2AP863E U2 15.75 - 14.14 KV CLIENT SERVICE TRANSFORMER 02
H1 H2 H3
CST-02 CONTROL CABINET
2AP807E CABLE BUS U2 CST TO U2 13.8KV VACUUM CIRCUIT BREAKER
STUB UP 02D055-02
STUB UP 02D054-01
E:3855.890 N:6658.443 2AP812E U2 13.8 kV VACCUUM CIRCUIT BREAKER O-11B
MH-51
DELUGE VALVE SHELTER
STUB UP 02D055-01
CABLE TRAY U2 13.8KV VACUUM CIRCUIT BREAKER TO PORT FACILITIES 14.14KV SWITCHBOARD BUS B INTERFACE POINT
2AP801E IPBD U2 GCB TO U21 CST02
2MP801E IPBD U2 STG TO U2 GENERATOR CIRCUIT BREAKER
E:3886.461 N:6681.054 2MP80OE U2 GENERATOR CIRCUIT BREAKER
STUB UP 02D062-02
GCB CENTRALIZING CUBICLE
2VT301X ACCU FOR DX-AHU OF STG ELECTRICAL ROOM UNIT#2
STUB UP 02D067-01
2MP805E IPBD U2 GENERATOR CIRCUIT BREAKER TO U2 GROUNDING TRANSFORMER
STUB UP 02D061-01
E:3886.461 N:6677.440 2MP804E GROUNDING TRANSFORMER FOR IPBD-U2
2AP806EA CABLE BUS UAT-2A TO SWITCHGEAR 2-11A
DELUGE VALVE SHELTER
2EW001E U2 TRANSFORMER YARD WELDING RECEPTACLE
MH-53
MH-54
2AP806EB CABLE BUS UAT-2B TO SWITCHGEAR 2-11B
2AP890EA U2 UNIT AUXILIARY TRANSFORMER-2A NEUTRAL GROUNDING RESISTOR
2AP890EB U2 UNIT AUXILIARY TRANSFORMER-2B NEUTRAL GROUNDING RESISTOR
UAT-2B CONTROL CABINET
2AP800EA IPBD U2 GCB TO UAT-2A
E:3898.410 N:6667.465 2AP862EA U2 15.75 - 7.07 KV UNIT AUXILIARY TRANSFORMER 2A
H3 H2 H1
E:3886.461 N:6667.810 2AP862EB U2 15.75 - 7.07 KV UNIT AUXILIARY TRANSFORMER 2B
2AP800EB IPBD U2 GCB TO UAT-2B
UAT-2A CONTROL CABINET
2P800EA IPBD U2 GCB TO UAT-2A
STUB UP 02D065-01
2MP803E IPBD U2 GENERATOR CIRCUIT BREAKER TO U2 GSU
GENERATOR TRANSFORMER MARSHALLING BOX
X3 X2 X1
H0 H1 H2 H3
E:3886.461 N:6658.288 2MP860E U2 GENERATOR TRANSFORMER
℄ LIGHTNING ARRESTOR
℄ POT HEAD
DELUGE VALVE SHELTER

PLAN AT ELEVATION 20.000M



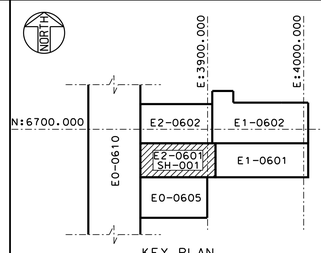
SECTION A–A
(THIS SHEET)


2MP803E IPBD U2 GENERATOR CIRCUIT BREAKER TO U2 GSU
2MP805E IPBD U2 GENERATOR CIRCUIT BREAKER TO U2 GROUNDING TRANSFORMER
W V U
GROUNDING TRANSFORMER FOR IPBD-U2

SECTION B–B
(THIS SHEET)

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE
0	18JUL2015	R.JOSHI	A.PATEL/R.BEEDIE	Y.MISHRA/K.NOMANBHOY	ISSUED FOR CONSTRUCTION
1	22AUG2015	R.JOSHI	A.PATEL/R.BEEDIE	Y.MISHRA/K.NOMANBHOY	ISSUED FOR CONSTRUCTION
2	08JUL2016	J.WOODS	R.BEEDIE	K.NOMANBHOY	ISSUED FOR CONSTRUCTION
3	09MARCH2017	K. PATEL	R. BEEDIE	K. NOMANBHOY	ISSUED FOR CONSTRUCTION UNDER PROJECT 13426-000



KEY PLAN
(SCALE:NONE)

LEGENDS

EMBEDDED CONDUIT

REFERENCE DRAWINGS

M0-0001	PLOT PLAN
M0-0003	GENERAL ARRANGEMENT TURBINE BUILDING
E0-0600	ELECTRICAL LOCATION INSTALLATION KEY PLAN
E0-0001	ELECTRICAL GENERAL NOTES & DETAILS
E2-0201	EMBEDDED CONDUIT TRANSFORMER BAY UNIT#2
E2-0301	ELECTRICAL DUCT BANK AND MANHOLES TRANSFORMER BAY UNIT#2
J2-0200	INSTRUMENT LOCATION PLAN UNIT#2

VENDOR DRAWINGS

11217D-EL-GA -EB200-P6052-00001	UAT-GENERAL ARRANGEMENT DRAWING
11217D-EL-GA -EB200-P6052-00101	CST-GENERAL ARRANGEMENT DRAWING
11217D-EL-GA-EB300 -P6054-00001	GENERATOR CIRCUIT BREAKER GENERAL ARRANGEMENT
11217D-EL-GA -EB200-P6051-00008	GSU-OUTLINE GENERAL ARRANGEMENT DRAWING
11217D-EL-DW -EB320-P6055-00002	13.8KV VCB-OUTLINE GENERAL ARRANGEMENT DRAWING
11217D-EL-GA -EB350-P6057-00001	IPBD-GENERAL ARRANGEMENT DRAWING
11217D-EL-DW -EB350-P6059-00007	MV PDC UNIT-2 CABLE BUS LAYOUT & SECTIONS
11217D-EL-DW -EB350-P6057-00009	GPT FIGURATION AND INSTALLATION DRAWING
11217D-ME-DS -MF100-P6037-00002	CONDENSATE TRANSFER PUMP MOTOR GENERAL ARRANGEMENT DRAWING
11217D-EL-DW-EY100 -P6061-00001	GENERAL ARRANGEMENT CATHODIC PROTECTION SYSTEM FOR TANK AREA
11217D-EL-DW-EY100 -P6061-00002	MATERIAL DIMENSION DRAWINGS & WIRING AND SCHEMATICS DRAWING

NOTES

1) ALL DIMENSIONS ARE IN MILLIMETERS. ELEVATIONS AND COORDINATES ARE IN METERS. UNLESS OTHERWISE NOTED.

2) FOR NOTES & LEGENDS REFER DRAWING EO-0600.

SCALE 1:100
0 1 2 3 4 5 10
GRAPHIC SCALE IN METERS

CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE. INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUB-CONTRACTOR(S)) PERFORMING THE WORK.

Contractors: SK E&C USA
Engineers: Sargent & Lundy
Client: Minera Panamá

PROJECT NO.:

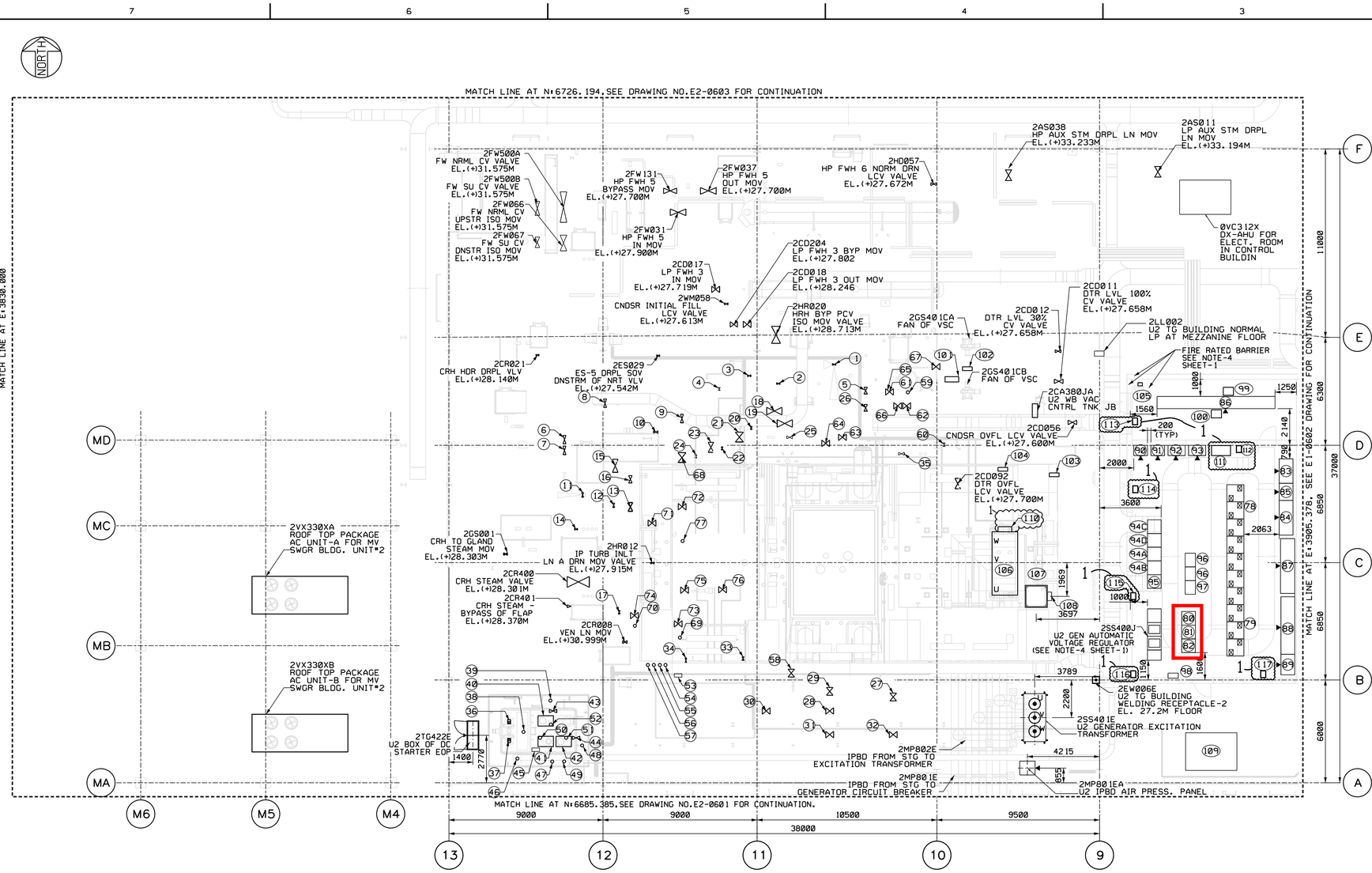
Project Title:
PACO POWER PLANT

DRAWING TITLE

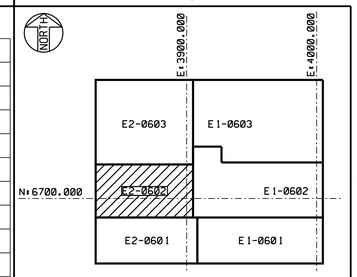
ELECTRICAL INSTALLATION
TRANSFORMER BAY
UNIT#2

DRAWING NUMBER	REVISION
E2-0601	3
SHEET 001 OF 001	

CAD FILE: E2-0601-001.DGN


MATCH LINE AT N:6726.194.SEE DRAWING NO.E2-0603 FOR CONTINUATION
MATCH LINE AT E:3930.000
MATCH LINE AT E:3905.378. SEE E1-0602 DRAWING FOR CONTINUATION
MATCH LINE AT N:6685.385.SEE DRAWING NO.E2-0601 FOR CONTINUATION.
2FW500A FW NRML CV VALVE EL.(+)31.575M
2FW500B FW SU CV VALVE EL.(+)31.575M
2FW066 FW NRML CV UPSTR ISO MOV EL.(+)31.575M
2FW067 FW SU CV DNSTR ISO MOV EL.(+)31.575M
2FW131 HP FWH 5 BYPASS MOV EL.(+)27.700M
2FW037 HP FWH 5 OUT MOV EL.(+)27.700M
2FW031 HP FWH 5 IN MOV EL.(+)27.900M
2HD057 HP FWH 6 NORM DRN LCV VALVE EL.(+)27.672M
2AS038 HP AUX STM DRPL LN MOV EL.(+)33.233M
2AS011 LP AUX STM DRPL LN MOV EL.(+)33.194M
0VC312X DX-AHU FOR ELECT. ROOM IN CONTROL BUILDIN
2CD017 LP FWH 3 IN MOV EL.(+)27.719M
2CD018 LP FWH 3 OUT MOV EL.(+)28.246
2CD204 LP FWH 3 BYP MOV EL.(+)27.802
2WM058 CNDSR INITIAL FILL LCV VALVE EL.(+)27.613M
2HR020 HRH BYP PCV ISO MOV VALVE EL.(+)28.713M
2GS401CA FAN OF VSC
2CD012 DTR LVL 30% CV VALVE EL.(+)27.658M
2CD011 DTR LVL 100% CV VALVE EL.(+)27.658M
2GS401CB FAN OF VSC
2LL002 U2 TO BUILDING NORMAL LP AT MEZZANINE FLOOR
FIRE RATED BARRIER SEE NOTE-4 SHEET-1
2CR021 CRH HDR DRPL VLV EL.(+)28.140M
2ES029 ES-5 DRPL SOV DNSTRM OF NRT VLV EL.(+)27.542M
2CA380JA U2 W8 VAC CNTRL TNK JB
2CD056 CNDSR OVFL LCV VALVE EL.(+)27.600M
2CD052 DTR OVFL LCV VALVE EL.(+)27.700M
2CS001 CRH TO GLAND STEAM MOV EL.(+)28.303M
2HR012 IP TURB INLT LN A DRN MOV VALVE EL.(+)27.915M
2CR400 CRH STEAM VALVE EL.(+)28.301M
2CR401 CRH STEAM - BYPASS OF FLAP EL.(+)28.370M
2CR008 VEN LN MOV EL.(+)30.999M
2SS400J U2 GEN AUTOMATIC VOLTAGE REGULATOR (SEE NOTE-4 SHEET-1)
2EW006E U2 TO BUILDING WELDING RECEPTACLE-2 EL. 27.2M FLOOR
2SS401E U2 GENERATOR EXCITATION TRANSFORMER
2MP802E IPBD FROM STG TO EXCITATION TRANSFORMER
2MP801E IPBD FROM STG TO GENERATOR CIRCUIT BREAKER
2MP801EA U2 IPBD AIR PRESS. PANEL
2VX330XA ROOF TOP PACKAGE AC UNIT-A FOR MV SWGR BLDG. UNIT*2
2VX330XB ROOF TOP PACKAGE AC UNIT-B FOR MV SWGR BLDG. UNIT*2
2TG422E U2 BOX OF DC STARTER EQP
MD
MC
MB
MA
M6
M5
M4
13
12
11
10
9
9000
9000
10500
9500
38000
11000
6300
37000
6850
6850
6000
F
E
D
C
B
A

PLAN AT ELEVATION EL.(+)27.200M



KEY PLAN
(SCALE:NONE)

LIST OF ELECTRICAL EQUIPMENT

LEGEND	S&L TAG	DESCRIPTION
1	2HR030	HRH BYP PCV VALVE EL.(+)28.502M
2	2HR038	HR BYP VLV BODY DRN EL.(+)27.550M
3	2HR032	HR BYPASS DRLN VLV MOV VALVE EL.(+)27.669M
4	2ES048	ES-4 DRPL SOV DNSTRM OF NRT VLV EL.(+)27.745M
5	2CD051	HRH BYP TCV VALVE EL.(+)27.460M
6	2FW050	HP BYP SPR ISO VLV EL.(+)27.700M
7	2FW051	HP BYP TCV VALVE EL.(+)27.700M
8	2ES003	ES-7 DRPL SOV DNSTRM OF NRT VLV EL.(+)27.835M
9	2ES404	BLEED V VALVE EL.(+)28.183M
10	2MS006	HP TURB INLT DRN MOV EL.(+)27.859M
11	2MS030	HP BYP VLV EL.(+)31.439M
12	2ES004	ES-7 DRPL SOV UPSTRM OF NRT VLV EL.(+)27.685M
13	2ES001	EXTR TO HP HTR 7 LN MOV EL.(+)28.414M
14	2CR013	WMUP DRN LN VLV EL.(+)27.607M
15	2MS020	MS BYP LN ISO VLV EL.(+)30.257M
16	2ES405	BLEED VII VALVE EL.(+)28.215M
17	2HR008	IP TURB INLT LN B DRN MOV EL.(+)27.714M
18	2ES401	BLEED III VALVE EL.(+)28.190M
19	2ES079	ES-3 DRPL SOV DNSTRM OF NRT VLV EL.(+)27.559M
20	2ES055	ES-3 DRPL SOV UPSTRM OF NRT VLV EL.(+)27.632M
21	2ES051	EXTR TO LP HTR 3 LN MOV EL.(+)28.225M
22	2ES043	ES-4 DRPL SOV UPSTRM OF NRT VLV EL.(+)27.827M
23	2ES402	BLEED IV VALVE EL.(+)28.264M
24	2ES024	ES-5 DRPL SOV UPSTRM OF NRT VLV EL.(+)27.600M
25	2HD014	LP FWH 3 NORM DRN LCV VALVE EL.(+)27.561M
26	2CD050	HRH BYP TCV ISO SOV VALVE EL.(+)27.459M
27	2CD013	LP FWH 1 IN MOV EL.(+)27.564M
28	2CD014	LP FWH 1 OUT MOV EL.(+)28.473M
29	2CD015	LP FWH 2 IN MOV EL.(+)27.614M
30	2CD016	LP FWH 2 OUT MOV EL.(+)28.327M
31	2CD201	LP FWH 2 BYP MOV EL.(+)28.454M
32	2CD202	LP FWH 1 BYP VLV EL.(+)28.454M
33	2CD247	FLASH TANK TCV VALVE EL.(+)27.449M
34	2AS049	GLND STM WRUP DRN LN MOV EL.(+)27.672M
35	2HD008	LP FWH 2 NORM DRN LCV VALVE EL.(+)28.2M
36	20L400CA	OIL MIST SEPARATOR
37	20L400CB	OIL MIST SEPARATOR
38	2PT-OL405	PRESS.SUCTION OF OIL VAPOR EXHAUST
39	2TT-OL404	TEMP.OIL IN MAIN OIL TANK
40	20L401PA	START-UP OIL PUMP
41	20L402P	DIRECT EMERGENCY OIL PUMP
42	20L401PB	START-UP OIL PUMP
43	20L026	START-UP OIL PUMP - DISCHARGE EL.(+)30.430M
44	20L029	START-UP OIL PUMP - DISCHARGE EL.(+)31.000M
45	20L401JA	U1 STG L.OIL JUNCTION BOX
46	2LT-OL402A	LEVEL MAIN TANK BEFORE SIEVES
47	2LT-OL401A	LEVEL 1 MAIN TANK BEHIND SIEVES
48	2LT-OL401B	LEVEL 2 MAIN TANK BEHIND SIEVES
49	2LT-OL401C	LEVEL 3 MAIN TANK BEHIND SIEVES
50	2PSH-OL401	PRESS.OIL DELIV.SOP 1
51	2PSH-OL402	PRESS.OIL DELIV.SOP 2
52	2PSH-OL403	PRESS.OIL DELIV.EMERG.PUMP
53	2MS450JE	U1 STG JUNCTION BOX
54	2PT-TG400	PRESS.1 STEAM AFTER A - WHEEL
55	2PT-TG401	PRESS.2 STEAM AFTER A - WHEEL
56	2PT-GS410	PRESS.STEAM VI.EXTR .-GLANDS CONGEST
57	2PT-GS405	PRESS.AUX.STEAM-GLANDS CONGEST.
58	2CD311	VACUUM BREAKER VALVE EL.(+)28.000M
59	2PT-GS425	PRESS.STEAM IN VSC
60	2CD086	CNDSR CURTAIN SPR CV VALVE EL.(+)27.500M

VENDOR DRAWING

11217-ME-DW-MG610-P6000-00308-1	PROTECTION PANEL xTG400J
11217-ME-DW-MG610-P6000-00308-5	SYNCHRONIZATION AND MEAS. CUBICLE-xTG401J
11217D-ME-DG-MG610-P6000-00336	EXCITATION TRANSFORMER
11217-ME-DW-MG610-P6000-00308	GENERATOR NEUTRAL OUTLET TERMINAL
11217D-ME-DW-MG610-P6000-00014-1	GENERAL ARRANGEMENT DRAWING FOR TCS CABIN AT
11217D-ME-DW-MG610-P6000-00014-2	GENERAL ARRANGEMENT DRAWING FOR TPS CABIN AT
11217D-ME-DW-MG610-P6000-00014-3	GENERAL ARRANGEMENT DRAWING FOR TRIPPING CABINET
11217D-ME-DG-MG610-P6000-00308	GENERAL ARRANGEMENT DRAWING FOR GENERATOR AUTOMATIC VOLTAGE REGULATOR PANEL
11217D-ME-DW-MG610-P6000-00056-1	SKODA INSTRUMENT AND JB LOCATION DRAWING
11217D-HV-DW-HV000-P6012-00001	OUTLINE DRAWING FOR PACKAGED ROOF TOP UNIT
11217D-EL-GA-EB340-P6058-00001	GENERAL ARRANGEMENT DRAWING FOR 120VAC UPS POWER PANEL
11217D-EL-GA-EB340-P6058-00002	GENERAL ARRANGEMENT DRAWING FOR 125VDC MAIN SWITCHBOARD AND 125VDC POWER PANEL
11217D-EL-GA-EB340-P6058-00003	GENERAL ARRANGEMENT DRAWING FOR 120VAC ALTERNATE SOURCE POWER PANEL
11217D-EL-GA-EB-340-6058-00004	GA DRAWING FOR PROTECTIVE RELAY PANEL
11217D-EL-DW-EB410-P6053-00002	GA DRAWING FOR DC SYSTEM
11217D-ME-GA-MH730-P6087-00002	GA DRAWING FOE WATERBOX VACUUM PUMP

NOTE

1. FOR NOTES, REFERENCE DRAWING AND LEGEND SEE SHEET-001 OF THIS DRAWING.

SCALE GRAPHIC SCALE IN METERS 0 1 2 3 4 5 10 1:100

CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUB-CONTRACTORS)) PERFORMING THE WORK.

LIST OF ELECTRICAL EQUIPMENT

LEGEND	S&L TAG	DESCRIPTION
61	2CD401	CONDENSATE FOR COOLING OF TG REAR GLAND SEALING EL.(+)27.870M
62	2CD4021	CONDENSATE FOR SPRAY COOLERS - VSC EL.(+)28.400M
63	2ED443	GLAND STEAM TO LP HEATER - DRAINING EL.(+)27.495M
64	2CD411	CONDENSATE FOR COOLING OF GLAND STEAM TO CONDENSER EL.(+)30.010M
65	2GS420	VENT STEAM TO VSC EL.(+)27.870M
66	2GS421	VENT STEAM - BYPASS OF VSC EL.(+)27.870M
67	2GS430	SUCTION OF VSC FAN EL.(+)27.720M
68	2ES020	EXTR TO TDSH LN MOV EL.(+)28.568M
69	2TT-GS406	TEMP.AUX.STEAM-GLANDS CONGEST.
70	2TT-GS411	TEMP.STEAM VI.EXTR.-GLANDS CONGEST.
71	2GS400	GLAND STEAM FROM TG INNER GLANDS TO VII. BLEED EL.(+)29.230M
72	2GS401	HP GLAND STEAM EL.(+)29.030M
73	2GS411	SEALING OF TG GLAND STEAM SYSTEM - AUXILIARY STEAM EL.(+)28.720M
74	2GS416	SEALING OF TG GLAND STEAM SYSTEM - COLD REHEAT LINE EL.(+)28.720M
75	2HR410	WARMING THROUGH OF IP VALVES CHAMBERS EL.(+)27.750M
76	2CD406	CONDENSATE FOR COOLING OF LP PART OF TG EL.(+)28.500M
	2CD416	CONDENSATE FOR COOLING OF IP VALVES CHAMBERS WARMING THROUGH EL.(+)28.800M
77	2TT-GS400	TEMP.GLAND STEAM TO IV.EXTR.
78	2AP849E	U2 480V MCC 42A3
79	2AP853E	U2 480V MCC 42B3
80	2AP864EA	U2 UNIT AUXILIARY TRANSFORMER-2A PROTECTIVE RELAY PANEL

LIST OF ELECTRICAL EQUIPMENT

LEGEND	S&L TAG	DESCRIPTION
81	2AP864EB	U2 UNIT AUXILIARY TRANSFORMER-2B PROTECTIVE RELAY PANEL
82	2AP865E	U2 CLIENT SERVICE TRANSFORMER 02 PROTECTIVE RELAY PANEL
83	2DC800EA	U2 125V DC BATTERY CHARGER A
84	2DC800EB	U2 125V DC BATTERY CHARGER B
85	2DC800E	U2 125V DC BATTERY CHARGER A & B CONNECTION FIELD
86	2DC801E	U2 125V DC BATTERY
87	2DC802E	MAIN 125V DC POWER PANEL IN U2 STG ELECTRICAL ROOM
88	2LV800E	U2 120V AC UPS INVERTER
89	2LV801E	U2 120V AC UPS ALTERNATE SOURCE TRANSFORMER
90	2DC805E	125V DC POWER PANEL IN U2 STG ELECTRICAL ROOM
91	2LV810E	120V AC UPS POWER PANEL IN U2 STG ELECTRICAL ROOM
92	2LV803E	MAIN ALTERNATE POWER PANEL IN U2 STG ELECTRICAL ROOM
93	2LV802E	MAIN 120V AC UPS POWER PANEL IN U2 STG ELECTRICAL ROOM
94A	2EH401JA	U2 TCS CONTROL CABINET 31/81
94B	2EH401JB	U2 TCS EXPANSION CABINET 31/81
94C	2EH401JC	U2 TPS CONTROL CABINET 32/82
94D	2EH401JD	U2 TPS EXPANSION CABINET 32/82

LIST OF ELECTRICAL EQUIPMENT

LEGEND	S&L TAG	DESCRIPTION
95	2MV401J	U2 STG VIBRATION MONITORING CABINET (SEE NOTE-4 SHEET-1)
96	2TG400J	U2 GENERATOR PROTECTION PANEL
97	2TG401J	U2 GENERATOR CONTROL PANEL
98	2TG001J	U2 TCS TPS POWER JUNCTION BOX
99	2VT301CA	BATTERY ROOM EXHAUST FAN-A FOR UNIT*2
100	2VT301CB	BATTERY ROOM EXHAUST FAN-B FOR UNIT*2
101	2GS400JA	U2 STG JUNCTION BOX
102	2TT-GS427	TEMP.VENT STEAM BEHIND INJECT.
103	2TT-WT400	TEM.GEN.COOL.WATER INPUT
104	2TT-WT401	TEM.GEN.COOL.WATER OUTPUT
105	2FS-WD001	STG BAT RM EYE WSH FLO HI
106	2TG400E	U2 GENERATOR TERMINAL BOX
107	2TG410E	U2 GEN NEUTRAL GROUNDING TRANSFORMER
108	2TG440E	U2 STG JUNCTION BOX
109	2VT300X	DX-AHU FOR STG ELECTRICAL ROOM UNIT*2
110	2TG430EP	U2 LV BOX FOR ST GENERATOR PHASE TERMINAL

LIST OF ELECTRICAL EQUIPMENT

LEGEND	S&L TAG	DESCRIPTION
111	0CO800JY	LOCAL COMM. CABINET
112	0CO803ER	LAN BOX 1
113	0CO803ES	LAN BOX 2
114	0CO803ET	LAN BOX 3
115	0CO803EU	LAN BOX 4
116	0CO803EV	LAN BOX 5
117	0CO803EW	LAN BOX 6

Sargent & Lundy
This drawing has been drawn by, or reproduced from, a drawing prepared for SKEC under S&L Project 12889-001. Modification is for MPSA under S&L Project 13426-000.

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE
0	03SEP2015	N.NIKAM	A.PATEL/R.BEEDIE	Y.MISHRA/K.NOMANBHOY	ISSUED FOR CONSTRUCTION
1	20DEC2017	K. PATEL	R.BEEDIE	K.NOMANBHOY	ISSUED FOR CONSTRUCTION

Contractor: SK E&C USA
Engineer: Sargent & Lundy
Client: Minera Panamá

PROJECT NO.: 12889-001
Project Title: PACO POWER PLANT

DRAWING TITLE
ELECTRICAL INSTALLATION TURBINE BUILDING UNIT#2 AT EL.(+) 27.200M

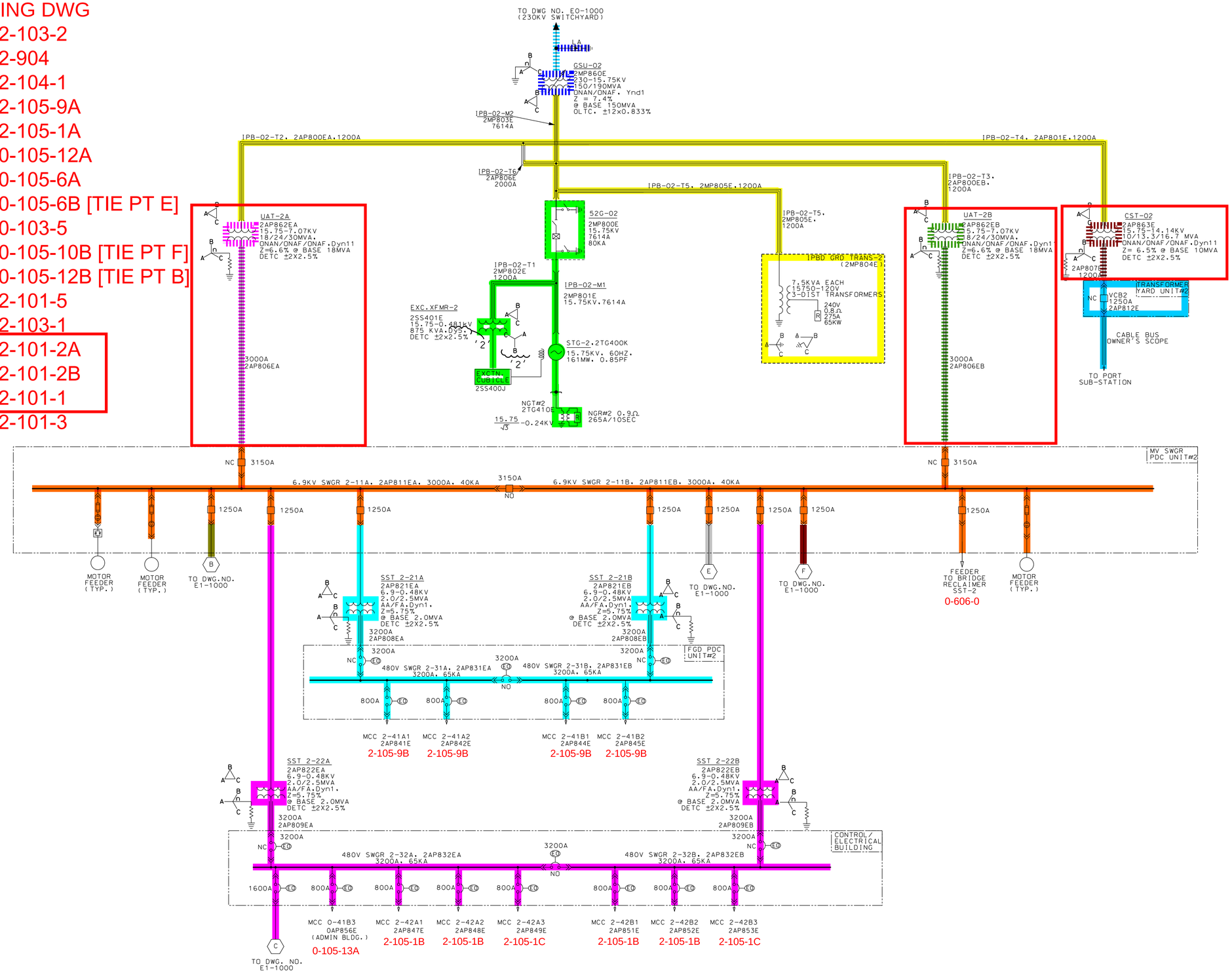
DRAWING NUMBER	REVISION
E2-0602	1

SHEET 002 OF 004

CAD FILE: E2-0602-002.DGN

Startup Code	Equipment No	System Code	Equipment Description	Equipment Type	Furnish Spec
2-101-2A	2AP806EA	AP - AUXILIARY POWER	CABLE BUS UAT-2A TO SWITCHGEAR 2-11A	Bus Duct	P-6059
2-101-2A	2AP862EA	AP - AUXILIARY POWER	U2 15.75 - 7.07 KV UNIT AUXILIARY TRANSFORMER 2A	Transformer	P-6052
2-101-2A	2AP864EA	AP - AUXILIARY POWER	U2 UNIT AUXILIARY TRANSFORMER-2A PROTECTIVE RELAY PANEL	Protective Relay Panel	P-6058
2-101-2A	2AP890EA	AP - AUXILIARY POWER	U2 UNIT AUXILIARY TRANSFORMER-2A NEUTRAL GROUNDING RESISTOR	General Equipment	P-6052
2-101-2B	2AP806EB	AP - AUXILIARY POWER	CABLE BUS UAT-2B TO SWITCHGEAR 2-11B	Bus Duct	P-6059
2-101-2B	2AP862EB	AP - AUXILIARY POWER	U2 15.75 - 7.07 KV UNIT AUXILIARY TRANSFORMER 2B	Transformer	P-6052
2-101-2B	2AP864EB	AP - AUXILIARY POWER	U2 UNIT AUXILIARY TRANSFORMER-2B PROTECTIVE RELAY PANEL	Protective Relay Panel	P-6058
2-101-2B	2AP890EB	AP - AUXILIARY POWER	U2 UNIT AUXILIARY TRANSFORMER-2B NEUTRAL GROUNDING RESISTOR	General Equipment	P-6052
2-101-1	2AP807E	AP - AUXILIARY POWER	CABLE BUS U2 CST TO U2 13.8KV VACUUM CIRCUIT BREAKER	Bus Duct	P-6059
2-101-1	2AP863E	AP - AUXILIARY POWER	U2 15.75 - 14.14 KV CLIENT SERVICE TRANSFORMER 02	Transformer	P-6052
2-101-1	2AP865E	AP - AUXILIARY POWER	U2 CLIENT SERVICE TRANSFORMER 02 PROTECTIVE RELAY PANEL	Protective Relay Panel	P-6058
2-101-1	2AP891E	AP - AUXILIARY POWER	U2 CLIENT SERVICE TRANSFORMER 02 NEUTRAL GROUNDING RESISTOR	General Equipment	P-6052

STP SCOPING DWG
- STP 2-103-2
- STP 2-904
- STP 2-104-1
- STP 2-105-9A
- STP 2-105-1A
- STP 0-105-12A
- STP 0-105-6A
- STP 0-105-6B [TIE PT E]
- STP 0-103-5
- STP 0-105-10B [TIE PT F]
- STP 0-105-12B [TIE PT B]
- STP 2-101-5
- STP 2-103-1
- STP 2-101-2A
- STP 2-101-2B
- STP 2-101-1
- STP 2-101-3



HOLD INFORMATION	
NO.	DESCRIPTION

SYMBOLS	
	ISO PHASE BUSDUCT
	CABLE BUS DUCT
	CABLE
	GENERATOR CIRCUIT BREAKER
	VACUUM CIRCUIT BREAKER (DRAWOUT TYPE)
	LIGHTNING ARRESTER
	ELECTRICALLY OPERATED AIR CIRCUIT BREAKER (DRAWOUT TYPE)
	GENERATOR
	NEUTRAL GROUNDING TRANSFORMER AND RESISTOR
	TWO WINDING TRANSFORMER WITH OLTC
	TWO WINDING TRANSFORMER
	EARTH SWITCH
	SWGR/MCC BUS
	STAR POINT
	STARTER WITH FUSE AND VACUUM CONTACTOR (DRAWOUT TYPE)
	SOFT STARTER

LEGENDS	
STG	STEAM TURBINE GENERATOR
NGT	NEUTRAL GROUNDING TRANSFORMER
NGR	NEUTRAL GROUNDING RESISTOR
IPB	ISOLATED PHASE BUSDUCT
GSU	GENERATOR STEP-UP TRANSFORMER
UAT	UNIT AUXILIARY TRANSFORMER
CST	CLIENT SERVICE TRANSFORMER
SST	STATION SERVICE TRANSFORMER
LA	LIGHTNING ARRESTER
MCC	MOTOR CONTROL CENTER
DG	DIESEL GENERATOR
DETC	DE-ENERGIZED TAP CHANGER
BSDG	BLACK START DIESEL GENERATOR

NOTES

1. ALL MV & LV SWITCHGEAR BREAKERS AND CONTACTORS SHALL BE ELECTRICALLY OPERATED.
2. UAT AND CST SECONDARY NEUTRALS SHALL BE EARTHED THROUGH NGR OF RATINGS 3.4 OHM AND 6.8 OHM RESPECTIVELY TO LIMIT THE EARTH FAULT CURRENT UPTO 1200A FOR 10 SEC.
3. SST SECONDARY NEUTRAL SHALL BE EARTHED THROUGH NGR OF RATING 27.7 OHM TO LIMIT THE EARTH FAULT CURRENT UPTO 10A FOR 10 SEC.

CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUB-CONTRACTOR(S)) PERFORMING THE WORK.

Contractors: SK E&C USA
Engineers: Sargent & Lundy
Client: Minera Panamá

PROJECT NO.: 12889-001

Project Title:
PACO POWER PLANT

DRAWING TITLE

ELECTRICAL ONE LINE DIAGRAM
UNIT 2

DRAWING NUMBER	REVISION
E2-1000	2
SHEET 001 OF 001	

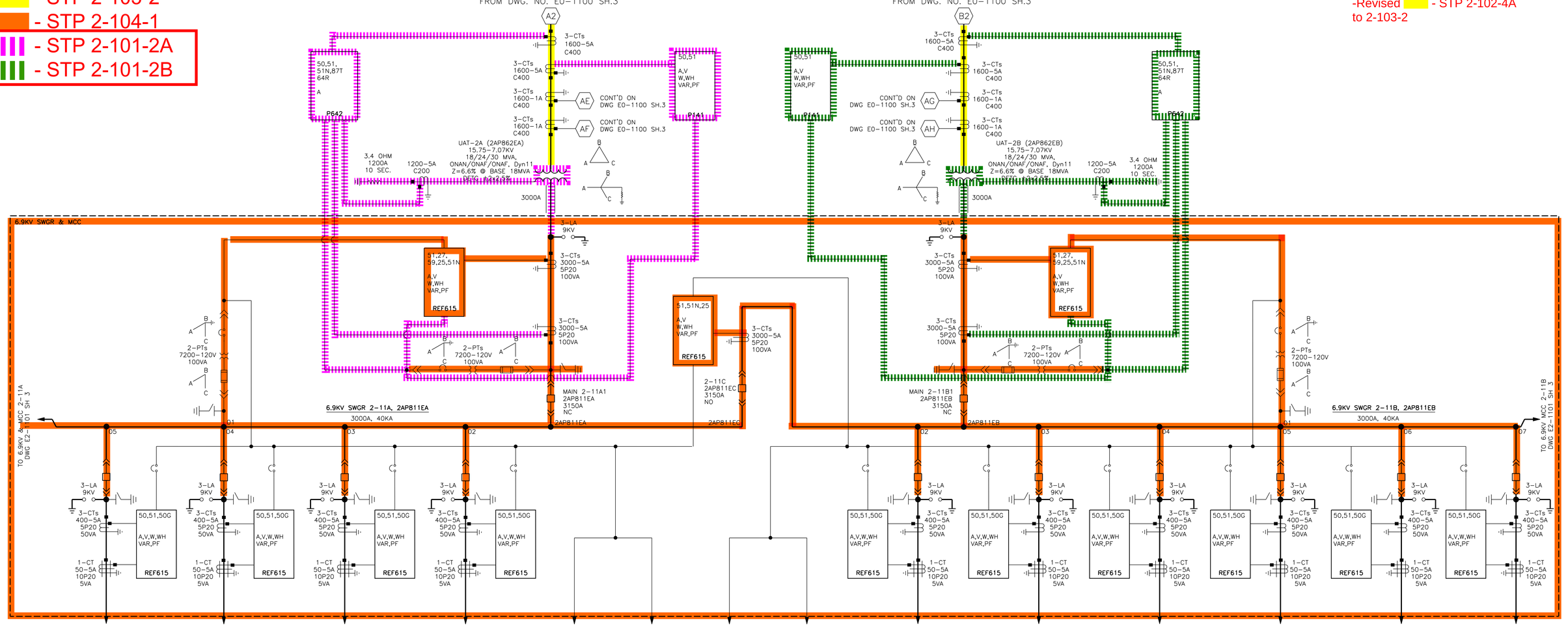
CAD FILE: E2-1000.DGN

DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE
0	06DEC2012	SSA	RKS	SG/KN	FOR CONSTRUCTION
1	14MAY2014	N.NIKAM/K.VASANI	R.DESAI/K.PATEL	Y.MISHRA/K.NOMANBHOY	ISSUED FOR CONSTRUCTION WITH OPTION 2A UPDATES
2	20OCT2014	R.JOSHI/K.VASANI	R.DESAI/K.PATEL	Y.MISHRA/K.NOMANBHOY	ISSUED FOR CONSTRUCTION

STP SCOPING DWG
- STP 2-103-2
- STP 2-104-1
- STP 2-101-2A
- STP 2-101-2B

Rev 2 JTB 1/6/17
-Revised - STP 2-102-4A to 2-103-2



SCHEMATIC	–	0AP002	2AP010	2AP008	–	–	–	–	2AP009	2AP011	0AP004	0AP006	–	0CH003
KW, KVA, A	–	2000/2500KVA	2000/2500KVA	2000/2500KVA	–	–	–	–	2000/2500KVA	2000/2500KVA	1500/2000KVA	1500/2000KVA	–	198.16KW
BREAKER FRAME (AMPS)	1250A	1250A	1250A	1250A	–	–	–	–	1250A	1250A	1250A	1250A	1250A	1250A
SERVICE	SPARE	ELECTROCHLORINATION SST 0-21B	CONTROL BUILDING SST 2-22A	FGD AREA SST 2-21A	6.9KV SWGR & MCC 2-11A PT FEED	6.9KV SWGR & MCC 2-11A PT FEED	6.9KV SWGR & MCC 2-11B PT FEED	6.9KV SWGR & MCC 2-11B PT FEED	FGD AREA SST 2-21B	CONTROL BUILDING SST 2-22B	COAL HANDLING PLANT SST 0-22B	WATER TREATMENT SST 0-23B	SPARE	POWER JB FOR RECLAIMER-A
EQUIPMENT TAG	–	0AP821EB	2AP822EA	2AP821EA	–	–	–	–	2AP821EB	2AP822EB	0AP822EB	0AP823EB	–	0CH850EB
		0-105-12B	2-105-1A	2-105-9A					2-105-9A	2-105-1A	0-105-6B	0-105-1B		0-606-0

NOTE:
1. STP #'S SHOWN ARE FOR THE FEEDER CABLES TO THE LOADS.

DRAWING RELEASE RECORD					
REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE
0	03OCT2014	N.NIKAM/K.VASANI	R.DESAI/K.PATEL	Y.MISHRA/K.NOMANBHOY	ISSUED FOR CONSTRUCTION

CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUB-CONTRACTOR(S)) PERFORMING THE WORK.

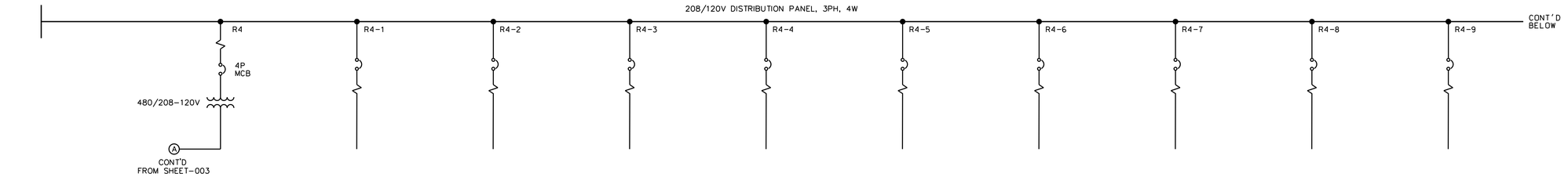
Contractors: SK E&C USA
Engineers: Sargent & Lundy
Client: Minera Panamá

PROJECT NO.: 12889-001
Project Title: PACO POWER PLANT

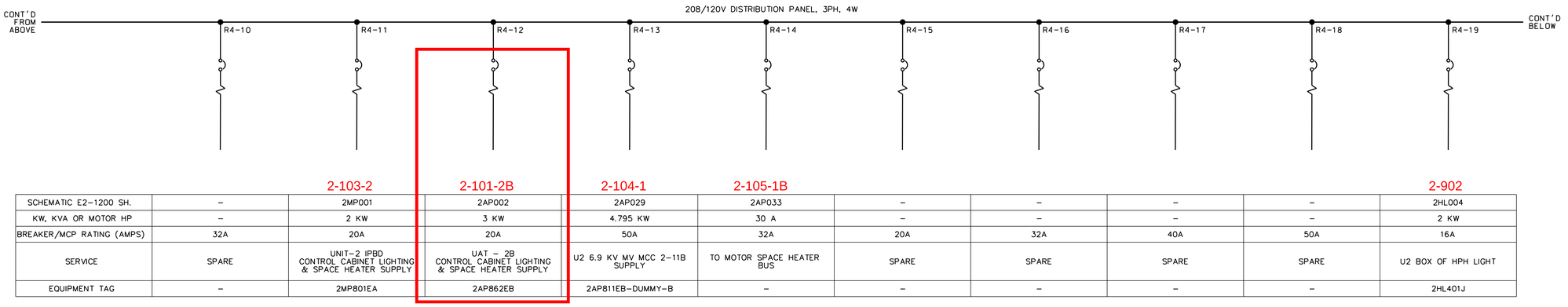
DRAWING TITLE
KEY DIAGRAM
MEDIUM VOLTAGE SWITCHGEAR
2AP811EA & 2AP811EB

DRAWING NUMBER	REVISION
E2-1101	0
SHEET 002 OF 003	

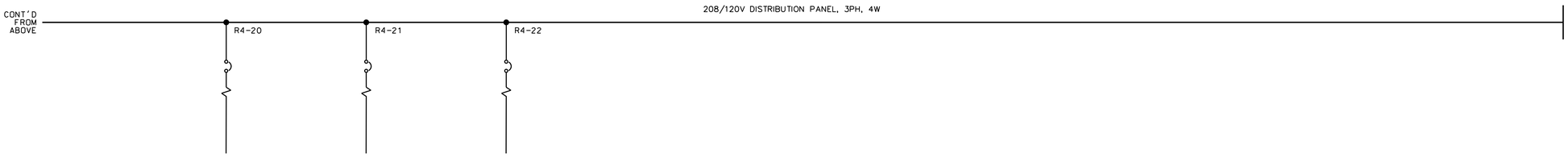
CAD FILE: E2-1101-001.DGN



	2-105-1C	2-102-3A	2-103-2	2-904	2-904	2-904	2-102-4A	2-506	2-904	2-102-3A
SCHEMATIC E2-1200 SH.	–	2DC002	2MP004	2MP002	2TG008	2SS400	2LV001	2CW001	2TG002	2DC001
KW, KVA OR MOTOR HP	25 KVA	0.108 KW	0.51 KW	0.57 KW	1.33 KVA	3 KVA	1.5 KW	1.51 KW	1.54 KW	1.75 KW
BREAKER/MCP RATING (AMPS)	100A	16A	16A	20A	16A	20A	32A	16A	20A	32A
SERVICE	TRANSFORMER MAIN	UNIT-2 STG ELECTRICAL ROOM DC POWER PANEL LIGHTING & SPACE HEATER SUPPLY	UNIT-2 IPBD GROUNDING TRANSFORMER LIGHTING & SPACE HEATER SUPPLY	UNIT-2 GCB CONTROL CABINET LIGHTING & SPACE HEATER SUPPLY	U2 BOX DC STARTER EOP-LIGHTING	U2 BOX OF EXCITATION-LIGHTING,HEATING	UNIT-2 UPS AUX POWER SUPPLY	U2 6.9KV FEEDER TO SOFT STARTER GROUP PANEL LIGHTING & SPACE HEATER SUPPLY	U2 BOX OF GENERATOR POWER OUTLET	U2 125V DC BATTERY CHARGER A & B CONNECTION FIELD AUX POWER SUPPLY
EQUIPMENT TAG	–	2DC805E	2MP804E	2MP800E	2TG422E	2SS400J	2LV801E	2AP811EA	2TG430E	2DC800E



		2-103-2	2-101-2B	2-104-1	2-105-1B					2-902
SCHEMATIC E2-1200 SH.	–	2MP001	2AP002	2AP029	2AP033	–	–	–	–	2HL004
KW, KVA OR MOTOR HP	–	2 KW	3 KW	4.795 KW	30 A	–	–	–	–	2 KW
BREAKER/MCP RATING (AMPS)	32A	20A	20A	50A	32A	20A	32A	40A	50A	16A
SERVICE	SPARE	UNIT-2 IPBD CONTROL CABINET LIGHTING & SPACE HEATER SUPPLY	UAT – 2B CONTROL CABINET LIGHTING & SPACE HEATER SUPPLY	U2 6.9 KV MV MCC 2-11B SUPPLY	TO MOTOR SPACE HEATER BUS	SPARE	SPARE	SPARE	SPARE	U2 BOX OF HPH LIGHT
EQUIPMENT TAG	–	2MP801EA	2AP862EB	2AP811EB-DUMMY-B	–	–	–	–	–	2HL401J



SCHEMATIC E2-1200 SH.	–	–	–
KW, KVA OR MOTOR HP	–	–	–
BREAKER/MCP RATING (AMPS)	16A	16A	16A
SERVICE	SPARE	SPARE	SPARE
EQUIPMENT TAG	–	–	–

NOTES

1. FOR SYMBOLS AND REFERENCE DRAWINGS REFER SHT.001 OF THIS DRAWING.

CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUB-CONTRACTOR(S)) PERFORMING THE WORK.

Contractors: SK E&C USA

Engineers: Sargent & Lundy

Client: Minera Panamá

PROJECT NO.: 12889-001

Project Title: PACO POWER PLANT

DRAWING TITLE

KEY DIAGRAM
U2 480V MCC 42B3
(2AP853E)

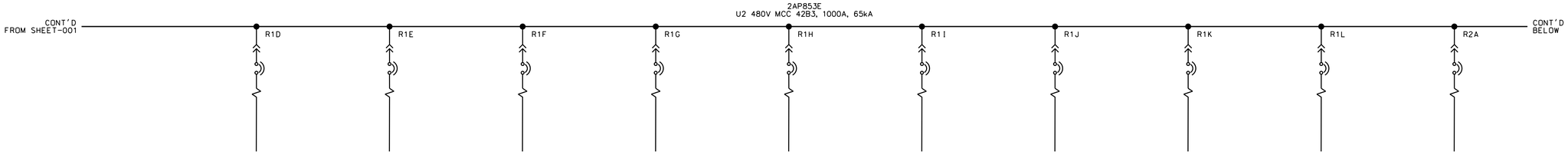
DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE
0	05SEP2015	N.NIKAM/V.PATEL	R.DESAI/K.PATEL	Y.MISHRA/K.NOMANBHOY	ISSUED FOR CONSTRUCTION

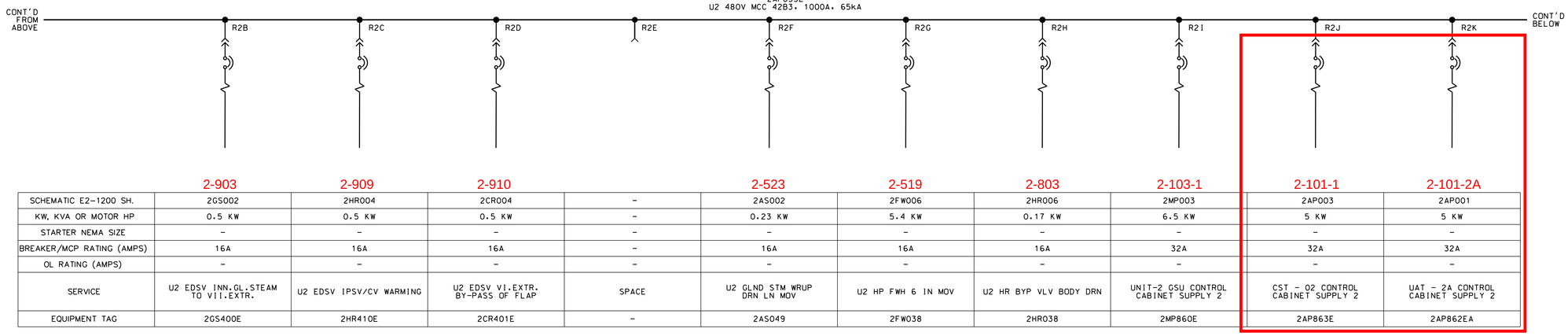
DRAWING NUMBER	REVISION
E2-1120	0

SHEET 004 OF 004

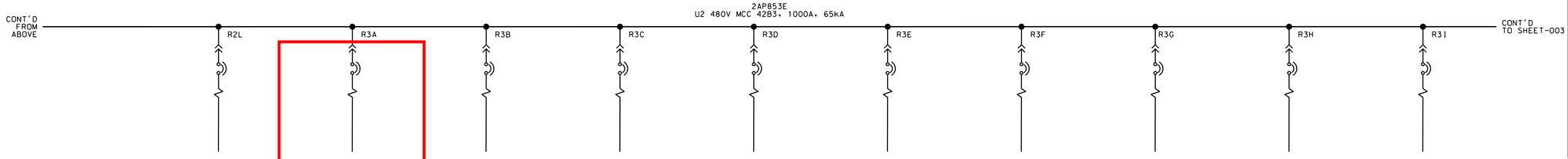
CAD FILE: E2-1120-004.DGN



	2-911	2-903	2-903	2-903	2-911	2-911	2-903	2-903	2-102-4A	2-909
SCHEMATIC E2-1200 SH.	2ED002	2TD004	2TD002	2ED006	2TD006	2ED008	2ED004	2GS005	2LV001	2MS005
KW, KVA OR MOTOR HP	0.5 KW	0.5 KW	0.5 KW	0.5 KW	0.5 KW	0.5 KW	0.5 KW	0.5 KW	80 KVA	0.5 KW
STARTER NEMA SIZE	-	-	-	-	-	-	-	-	-	-
BREAKER/MCP RATING (AMPS)	16A	16A	16A	16A	16A	16A	16A	16A	250A	16A
OL RATING (AMPS)	-	-	-	-	-	-	-	-	-	-
SERVICE	U2 EDSV DRAIN.AUX. ST.GL.CONG. (NO.14)	U2 EDSV DRAIN.A-WHEEL TURB. (NO.7)	U2 EDSV DRAIN.HPCV2 PIPING (NO.5)	U2 EDSV DRAIN.INN.GL. TO VII.EXTR.(NO.13)	U2 EDSV DRAIN.LP CASING (NO.16)	U2 EDSV DRAIN.LP GL. STEAM (NO.17.18)	U2 EDSV DRAIN.VI.EXTTR. GL.CONG.(NO.10)	U2 EDSV GL.STEAM TO TG OUTLET	UNIT - 2 UPS BYPASS TRANSFORMER	U2 EDSV HPCV WARMING
EQUIPMENT TAG	2ED405E	2TD425E	2TD415E	2ED425E	2TD435E	2ED435E	2ED415E	2GS407E	2LV801E	2MS411E



	2-903	2-909	2-910		2-523	2-519	2-803	2-103-1	2-101-1	2-101-2A
SCHEMATIC E2-1200 SH.	2GS002	2HR004	2CR004	-	2AS002	2FW006	2HR006	2MP003	2AP003	2AP001
KW, KVA OR MOTOR HP	0.5 KW	0.5 KW	0.5 KW	-	0.23 KW	5.4 KW	0.17 KW	6.5 KW	5 KW	5 KW
STARTER NEMA SIZE	-	-	-	-	-	-	-	-	-	-
BREAKER/MCP RATING (AMPS)	16A	16A	16A	-	16A	16A	16A	32A	32A	32A
OL RATING (AMPS)	-	-	-	-	-	-	-	-	-	-
SERVICE	U2 EDSV INN.GL.STEAM TO VII.EXTR.	U2 EDSV IPSV/CV WARMING	U2 EDSV VI.EXTR. BY-PASS OF FLAP	SPACE	U2 GLND STM WRUP DRN LN MOV	U2 HP FWH 6 IN MOV	U2 HR BYP VLV BODY DRN	UNIT-2 GSU CONTROL CABINET SUPPLY 2	CST - 02 CONTROL CABINET SUPPLY 2	UAT - 2A CONTROL CABINET SUPPLY 2
EQUIPMENT TAG	2GS400E	2HR410E	2CR401E	-	2AS049	2FW038	2HR038	2MP860E	2AP863E	2AP862EA



	-	2-101-2B	2-904	2-506-1	0-108-3A					2-911
SCHEMATIC E2-1200 SH.	-	2AP002	2MP002	2CW015	2EW001	-	-	-	-	2ED001
KW, KVA OR MOTOR HP	-	5 KW	1.953 KW	10 KW	63 A	-	-	-	-	0.5 KW
STARTER NEMA SIZE	-	-	-	-	-	-	-	-	-	-
BREAKER/MCP RATING (AMPS)	250A	32A	16A	63A	63A	16A	16A	16A	32A	16A
OL RATING (AMPS)	-	-	-	-	-	-	-	-	-	-
SERVICE	SPARE	UAT - 2B CONTROL CABINET SUPPLY 2	UNIT-2 GCB CONTROL CABINET SUPPLY	U2 CONDENSER ONLINE TUBE CLEANING SYSTEM LCP SUPPLY-2	WELDING RECEPTACLE : UNIT-2 TG BUILDING (47.1M)	SPARE	SPARE	SPARE	SPARE	U2 EDV GLD ST. TO EXTR I DRN 21
EQUIPMENT TAG	-	2AP862EB	2MP800E	2CW346E	2EW008E	-	-	-	-	2ED443

NOTES

1. FOR SYMBOLS AND REFERENCE DRAWINGS REFER SHT.001 OF THIS DRAWING.

Rev 1 JTB 12/12/16
-Revised Brkr R2F STP

DRAWING RELEASE RECORD					
REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE
0	05SEP2015	N.NIKAM/V.PATEL	R.DESAI/K.PATEL	Y.MISHRA/K.NOMANBHOY	ISSUED FOR CONSTRUCTION

CONTRACTOR/INSTALLER SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO ENSURE THE SAFETY OF ALL PEOPLE LOCATED ON THE WORK SITE, INCLUDING CONTRACTOR'S/INSTALLER'S PERSONNEL (OR THAT OF ITS SUB-CONTRACTOR(S)) PERFORMING THE WORK.

Contractors: SK E&C USA
Engineers: Sargent & Lundy
Client: Minera Panamá

PROJECT NO.: 12889-001

Project Title: PACO POWER PLANT

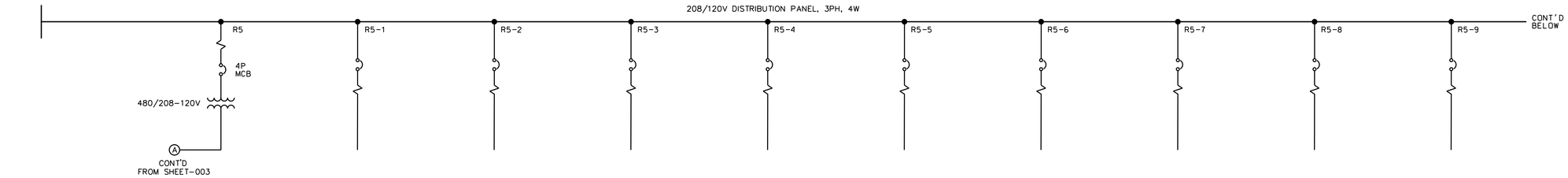
DRAWING TITLE

KEY DIAGRAM
U2 480V MCC 42B3
(2AP853E)

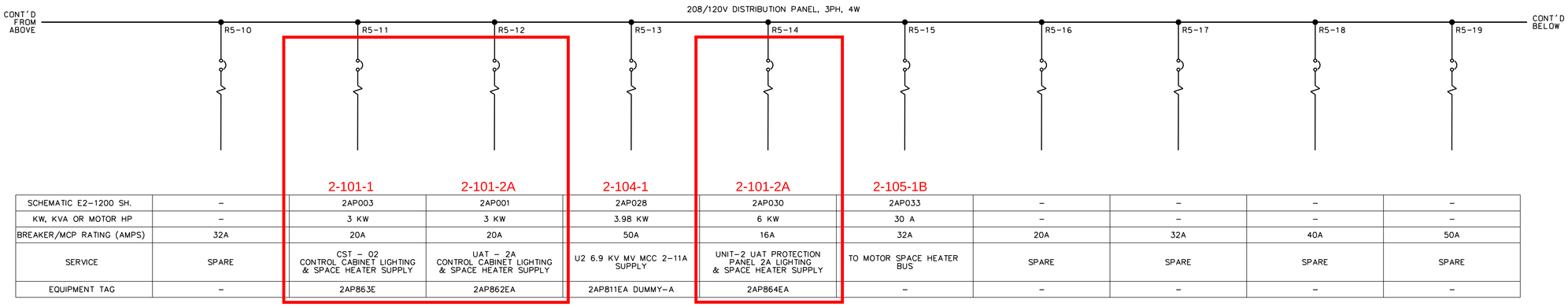
DRAWING NUMBER	REVISION
E2-1120	0

SHEET 002 OF 004

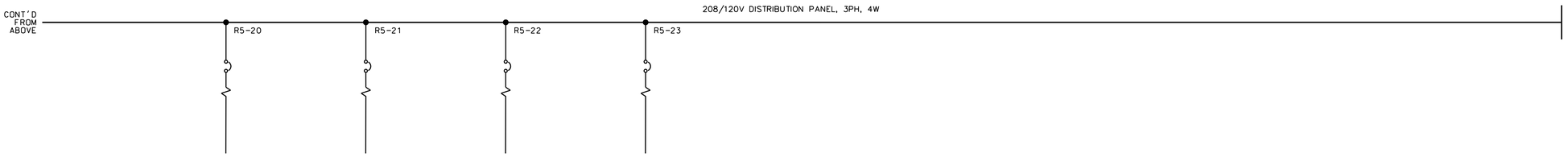
CAD FILE: E2-1120-002.DGN



	2-105-1C	2-101-5	2-904	2-102-3A	2-103-1	2-308	2-308	2-104-1		2-904
SCHEMATIC E2-1200 SH.	–	2AP007	2TG400J	2DC002	2MP003	2EH001	2MV001	2AP005	–	2TG003
KW, KVA OR MOTOR HP	25 KVA	0.2 KW	1.4 KW	0.521 KW	1 KW	1.1 KW	1.2 KVA	1.35 KW	–	1.54 KW
BREAKER/MCP RATING (AMPS)	100A	16A	20A	16A	16A	32A	16A	20A	20A	20A
SERVICE	TRANSFORMER MAIN	U2 13.8 KV OUTDOOR VCB PANEL	U2 SWITCHBRD.FOR GEN. PROT.-C LIGHT	UNIT-2 MAIN DC POWER PANEL LIGHTING & SPACE HEATER SUPPLY	UNIT-2 GSU CONTROL CABINET LIGHTING & SPACE HEATER SUPPLY	U2 BOX CONTR.SYSTEM TURB.-SUPPLY C	U2 BOX VIBR.MONITOR. SYST.- SUPPLY C	U2 6.9 KV MV SWITCHGEAR SUPPLY	SPARE	U2 BOX OF GEN. NEUTRAL OUTLET
EQUIPMENT TAG	–	2AP812E	2TG400J	2DC802E	2MP860E	2EH401JB	2MV401J	2AP811EC	–	2TG440E



		2-101-1	2-101-2A	2-104-1	2-101-2A	2-105-1B				
SCHEMATIC E2-1200 SH.	–	2AP003	2AP001	2AP028	2AP030	2AP033	–	–	–	–
KW, KVA OR MOTOR HP	–	3 KW	3 KW	3.98 KW	6 KW	30 A	–	–	–	–
BREAKER/MCP RATING (AMPS)	32A	20A	20A	50A	16A	32A	20A	32A	40A	50A
SERVICE	SPARE	CST – 02 CONTROL CABINET LIGHTING & SPACE HEATER SUPPLY	UAT – 2A CONTROL CABINET LIGHTING & SPACE HEATER SUPPLY	U2 6.9 KV MV MCC 2-11A SUPPLY	UNIT-2 UAT PROTECTION PANEL 2A LIGHTING & SPACE HEATER SUPPLY	TO MOTOR SPACE HEATER BUS	SPARE	SPARE	SPARE	SPARE
EQUIPMENT TAG	–	2AP863E	2AP862EA	2AP811EA DUMMY-A	2AP864EA	–	–	–	–	–



SCHEMATIC E2-1200 SH.	–	–	–	–
KW, KVA OR MOTOR HP	–	–	–	–
BREAKER/MCP RATING (AMPS)	16A	16A	16A	16A
SERVICE	SPARE	SPARE	SPARE	SPARE
EQUIPMENT TAG	–	–	–	–

NOTES

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Contractors: SK E&C USA

Engineers: Sargent & Lundy

Client: Minera Panamá

PROJECT NO.: 12889-001

Project Title: PACO POWER PLANT

DRAWING TITLE

KEY DIAGRAM
U2 480V MCC 42A3
(2AP849E)

DRAWING NUMBER: E2-1117

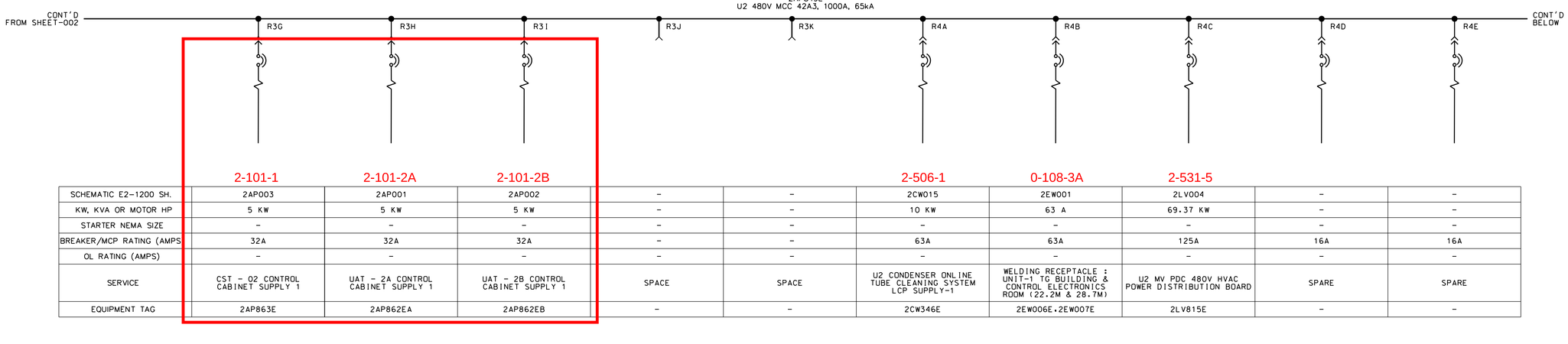
REVISION: 0

SHEET 004 OF 004

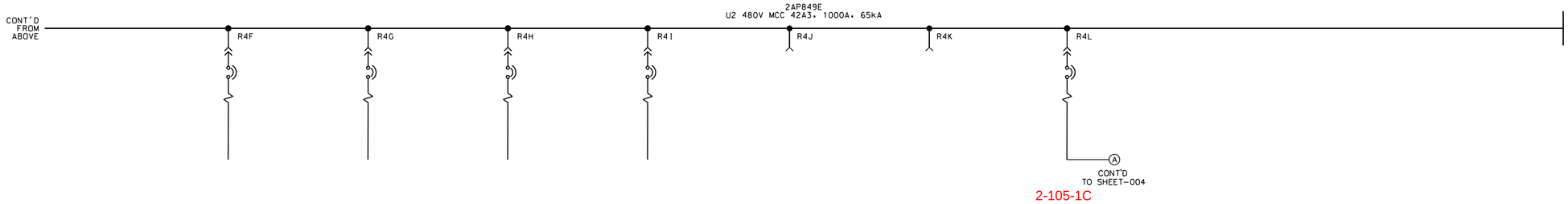
DRAWING RELEASE RECORD

REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE
0	05SEP2015	N.NIKAM/V.PATEL	R.DESAI/K.PATEL	Y.MISHRA/K.NOMANBHOY	ISSUED FOR CONSTRUCTION

CAD FILE: E2-1117-004.DGN



	2-101-1	2-101-2A	2-101-2B			2-506-1	0-108-3A	2-531-5		
SCHEMATIC E2-1200 SH.	2AP003	2AP001	2AP002	-	-	2CW015	2EW001	2LV004	-	-
KW, KVA OR MOTOR HP	5 KW	5 KW	5 KW	-	-	10 KW	63 A	69.37 KW	-	-
STARTER NEMA SIZE	-	-	-	-	-	-	-	-	-	-
BREAKER/MCP RATING (AMPS	32A	32A	32A	-	-	63A	63A	125A	16A	16A
OL RATING (AMPS)	-	-	-	-	-	-	-	-	-	-
SERVICE	CST - 02 CONTROL CABINET SUPPLY 1	UAT - 2A CONTROL CABINET SUPPLY 1	UAT - 2B CONTROL CABINET SUPPLY 1	SPACE	SPACE	U2 CONDENSER ONLINE TUBE CLEANING SYSTEM LCP SUPPLY-1	WELDING RECEPTACLE : UNIT-1 TG BUILDING & CONTROL ELECTRONICS ROOM (22.2M & 28.7M)	U2 MV PDC 480V HVAC POWER DISTRIBUTION BOARD	SPARE	SPARE
EQUIPMENT TAG	2AP863E	2AP862EA	2AP862EB	-	-	2CW346E	2EW006E,2EW007E	2LV815E	-	-



	2-105-1C
SCHEMATIC E2-1200 SH.	-
KW, KVA OR MOTOR HP	-
STARTER NEMA SIZE	-
BREAKER/MCP RATING (AMPS)	16A
OL RATING (AMPS)	-
SERVICE	SPARE
EQUIPMENT TAG	-

-	-	-	-	-	-	-
-	-	-	-	-	-	25 KVA
-	-	-	-	-	-	-
32A	63A	80A	-	-	-	50A
-	-	-	-	-	-	-
SPARE	SPARE	SPARE	SPARE	SPACE	SPACE	TRANSFORMER MAIN
-	-	-	-	-	-	-

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REV.	DATE REL'D.	PREPARED	REVIEWED	APPROVED	PURPOSE
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CAD FILE: E2-1117-003.DGN